

Lionville Laboratory, Inc.  
INORGANIC ANALYTICAL DATA PACKAGE FOR  
ECC-LI TUNGSTEN

DATE RECEIVED: 07/03/07

LVL LOT # :0707L516

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
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5601-FSS-PC-1041-1

ARSENIC, TOTAL	001	S	07L0299	06/15/07	07/05/07	07/05/07
ARSENIC, TOTAL	001 REP	S	07L0299	06/15/07	07/05/07	07/05/07
ARSENIC, TOTAL	001 MS	S	07L0299	06/15/07	07/05/07	07/05/07
ARSENIC, TOTAL	001 MSD	S	07L0299	06/15/07	07/05/07	07/05/07
LEAD, TOTAL	001	S	07L0299	06/15/07	07/05/07	07/05/07
LEAD, TOTAL	001 REP	S	07L0299	06/15/07	07/05/07	07/05/07
LEAD, TOTAL	001 MS	S	07L0299	06/15/07	07/05/07	07/05/07
LEAD, TOTAL	001 MSD	S	07L0299	06/15/07	07/05/07	07/05/07

LAB QC:

ARSENIC LABORATORY	LC1 BS	S	07L0299	N/A	07/05/07	07/05/07
ARSENIC, TOTAL	MB1	S	07L0299	N/A	07/05/07	07/05/07
LEAD LABORATORY	LC1 BS	S	07L0299	N/A	07/05/07	07/05/07
LEAD, TOTAL	MB1	S	07L0299	N/A	07/05/07	07/05/07



## Analytical Report

**Client :** ECC-LI TUNGSTEN  
**LVL# :** 0707L516

**W.O.# :** 60050-010-001-9999-00  
**Date Received :** 07-03-07

### METALS CASE NARRATIVE

The following is a summary of the QC results accompanying the sample results. Lionville Laboratory (LvLI) certifies that all test results meet the requirements of NELAC except as noted below.

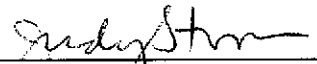
All soil samples are reported on a dry weight basis unless requested by the client, required by the method, or noted otherwise.

1. This narrative covers the analysis of 1 soil sample.
2. The sample was prepared and analyzed in accordance with methods checked on the attached glossary.
3. All analyses were performed within the required holding times.
4. All Initial and Continuing Calibration Verifications (ICV/CCVs) were within control limits.
5. All Initial and Continuing Calibration Blanks (ICB/CCBs) were within control limits.
6. All preparation/method blanks were within method criteria. Refer to the Inorganics Method Blank Data Summary.
7. All ICP Interference Check Standards were within control limits.
8. All laboratory control samples (LCS) were within the 80-120% control limits. Refer to the Inorganics Laboratory Control Standards Report.
9. All matrix spike (MS) and matrix spike duplicate (MSD) recoveries were within the 75-125% control limits. Refer to the Inorganics Accuracy Report.
10. All MSs and MSDs were within the 20% Relative Percent Difference (RPD) control limits. Refer to the Inorganics Matrix Spike Duplicate Report.
11. All duplicate analyses were within the 20% Relative Percent Difference (RPD) control limits.

The results presented in this report relate only to the analytical testing and conditions of the samples at receipt and during storage. All pages of this report are integral parts of the analytical data. Therefore, this report should only be reproduced in its entirety of 13 pages.

Refer to the Inorganics Precision Report.

12. For the purposes of this report, the data has been reported to the Instrument Detection Limit (IDL). Values between the IDL and the Practical Quantitation Limit (PQL) are acquired in a region of less-certain quantification.
13. LvLI is NELAP accredited by the state of Pennsylvania and holds over 20 additional state accreditations. For a complete listing of accrediting authorities and the corresponding analytes/methods, please contact your Project Manager.

  
Iain Daniels  
Laboratory Manager  
Lionville Laboratory Incorporated

7/9/07  
Date

jjw/m07-516



# METALS METHOD GLOSSARY

The following methods are used as reference for the digestion and analysis of samples contained within this

Lot#: 07062516

Leaching Procedure: 1310 1311 1312 Other:

CLP Metals Digestion and Analysis Methods: ILM03.0 ILM04.0

Metals Digestion Methods: 3005A 3010A 3015 3020A X3050B 3051 200.7 SS17  
Other:

## Metals Analysis Methods

	SW846	EPA	STD MTD	EPA OSWR	USATHAMA
Aluminum	<u>6010B</u>	<u>200.7</u>			<u>99</u>
Antimony	<u>6010B</u> <u>7041</u> <sup>5</sup>	<u>200.7</u> <u>204.2</u>			<u>99</u>
Arsenic	<u>X6010B</u> <u>7060A</u> <sup>5</sup>	<u>200.7</u> <u>206.2</u>	<u>3113B</u>		<u>99</u>
Barium	<u>6010B</u>	<u>200.7</u>			<u>99</u>
Beryllium	<u>6010B</u>	<u>200.7</u>			<u>99</u>
Bismuth	<u>6010B</u> <sup>1</sup>	<u>200.7</u> <sup>1</sup>		<u>1620</u>	<u>99</u>
Boron	<u>6010B</u>	<u>200.7</u>			<u>99</u>
Cadmium	<u>6010B</u> <u>7131A</u> <sup>5</sup>	<u>200.7</u> <u>213.2</u>			<u>99</u>
Calcium	<u>6010B</u>	<u>200.7</u>			<u>99</u>
Chromium	<u>6010B</u> <u>7191</u> <sup>5</sup>	<u>200.7</u> <u>218.2</u>			<u>SS17</u>
Cobalt	<u>6010B</u>	<u>200.7</u>			<u>99</u>
Copper	<u>6010B</u> <u>7211</u> <sup>5</sup>	<u>200.7</u> <u>220.2</u>			<u>99</u>
Iron	<u>6010B</u>	<u>200.7</u>			<u>99</u>
Lead	<u>X6010B</u> <u>7421</u> <sup>5</sup>	<u>200.7</u> <u>239.2</u>	<u>3113B</u>		<u>99</u>
Lithium	<u>6010B</u> <u>7430</u> <sup>4</sup>	<u>200.7</u>		<u>1620</u>	<u>99</u>
Magnesium	<u>6010B</u>	<u>200.7</u>			<u>99</u>
Manganese	<u>6010B</u>	<u>200.7</u>			<u>99</u>
Mercury	<u>7470A</u> <sup>3</sup> <u>7471A</u> <sup>3</sup>	<u>245.1</u> <sup>2</sup> <u>245.5</u> <sup>2</sup>			<u>99</u>
Molybdenum	<u>6010B</u>	<u>200.7</u>			<u>99</u>
Nickel	<u>6010B</u>	<u>200.7</u>			<u>99</u>
Potassium	<u>6010B</u> <u>7610</u> <sup>4</sup>	<u>200.7</u> <u>258.1</u> <sup>4</sup>			<u>99</u>
Rare Earths	<u>6010B</u> <sup>1</sup>	<u>200.7</u> <sup>1</sup>		<u>1620</u>	<u>99</u>
Selenium	<u>6010B</u> <u>7740</u> <sup>5</sup>	<u>200.7</u> <u>270.2</u>	<u>3113B</u>		<u>99</u>
Silicon	<u>6010B</u> <sup>1</sup>	<u>200.7</u>		<u>1620</u>	<u>99</u>
Silica	<u>6010B</u>	<u>200.7</u>		<u>1620</u>	<u>99</u>
Silver	<u>6010B</u> <u>7761</u> <sup>5</sup>	<u>200.7</u> <u>272.2</u>			<u>99</u>
Sodium	<u>6010B</u> <u>7770</u> <sup>4</sup>	<u>200.7</u> <u>273.1</u> <sup>4</sup>			<u>99</u>
Strontium	<u>6010B</u>	<u>200.7</u>			<u>99</u>
Thallium	<u>6010B</u> <u>7841</u> <sup>5</sup>	<u>200.7</u> <u>279.2</u> <u>200.9</u>			<u>99</u>
Tin	<u>6010B</u>	<u>200.7</u>			<u>99</u>
Titanium	<u>6010B</u>	<u>200.7</u>			<u>99</u>
Uranium	<u>6010B</u> <sup>1</sup>	<u>200.7</u> <sup>1</sup>		<u>1620</u>	<u>99</u>
Vanadium	<u>6010B</u>	<u>200.7</u>			<u>99</u>
Zinc	<u>6010B</u>	<u>200.7</u>			<u>99</u>
Zirconium	<u>6010B</u> <sup>1</sup>	<u>200.7</u> <sup>1</sup>		<u>1620</u>	<u>99</u>

Other: \_\_\_\_\_

Method: \_\_\_\_\_

# METHOD REFERENCES AND DATA QUALIFIERS

## DATA QUALIFIERS

- U = Indicates that the parameter was not detected at or above the reported limit. The associated numerical value is the sample detection limit.
- \* = Indicates that the original sample result is greater than 4x the spike amount added.

## ABBREVIATIONS

- MB = Method or Preparation Blank.  
MS = Matrix Spike.  
MSD = Matrix Spike Duplicate.  
REP = Sample Replicate  
LCS = Laboratory Control Sample.  
NC = Not calculated.

## ANALYTICAL METAL METHODS

1. Not included in the method element list.
2. Modified Hg: Hg1 and Hg2 require less total volume of digestate due to the autosampler analysis. Sample volumes and reagents for mercury determinations in water and soil have been proportionately scaled down to adapt to this semi-automated technique. The sample volume used for water analysis is 33 mL. For soils, approximately 0.3 grams of sample is taken to a final volume of 50 mL (including all reagents).
3. Flame AA.
4. Graphite Furnace AA.

L-WI-033/N-04/98

Lionville Laboratory, Inc.

INORGANICS DATA SUMMARY REPORT 07/09/07

CLIENT: ECC-LI TUNGSTEN

LVL LOT #: 0707L516

WORK ORDER: 60050-010-001-9999-00

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
=====	=====	=====	=====	=====	=====	=====
-001	5601-FSS-PC-1041-1	Arsenic, Total	3.5	MG/KG	0.44	1.0
		Lead, Total	6.0	MG/KG	0.35	1.0

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INORGANICS METHOD BLANK DATA SUMMARY PAGE 07/09/07

CLIENT: ECC-LI TUNGSTEN

LVL LOT #: 0707L516

WORK ORDER: 60050-010-001-9999-00

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
=====	=====	=====	=====	=====	=====	=====
BLANK1	07L0299-MB1	Arsenic, Total	0.39 u	MG/KG	0.39	1.0
		Lead, Total	0.35	MG/KG	0.31	1.0

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INORGANICS ACCURACY REPORT 07/09/07

CLIENT: ECC-LI TUNGSTEN

LVL LOT #: 0707LS16

WORK ORDER: 60050-010-001-9999-00

SAMPLE	SITE ID	ANALYTE	SPIKED SAMPLE	INITIAL RESULT	SPIKED AMOUNT	%RECOV	DILUTION FACTOR (SPK)
=====	=====	=====	=====	=====	=====	=====	=====
-001	5601-FSS-PC-1041-1	Arsenic, Total	205	3.5	214	94.1	1.0
		Arsenic, Total MSD	194	3.5	214	89.1	1.0
		Lead, Total	57.9	6.0	53.5	97.0	1.0
		Lead, Total MSD	54.6	6.0	53.5	90.8	1.0

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INORGANICS DUPLICATE SPIKE REPORT 07/09/07

CLIENT: ECC-LI TUNGSTEN

LVL LOT #: 0707L516

WORK ORDER: 60050-010-001-9999-00

SAMPLE	SITE ID	ANALYTE	SPIKE#1 SPIKE#2		
			%RECOV	%RSCOV	%DIFF
=====	=====	=====	=====	=====	=====
-001	5601-FSS-PC-1041-1	Arsenic, Total	94.1	89.1	5.4
		Lead, Total	97.0	90.8	6.6

Lionville Laboratory, Inc.

INORGANICS PRECISION REPORT 07/09/07

CLIENT: ECC-LI TUNGSTEN

LVL LOT #: 0707L516

WORK ORDER: 60050-010-001-9999-00

SAMPLE	SITE ID	ANALYTE	INITIAL RESULT	REPLICATE	RPD	DILUTION FACTOR (REP)
=====	=====	=====	=====	=====	=====	=====
-001REP	5601-FSS-PC-1041-1	Arsenic, Total	3.5	3.3	5.9	1.0
		Lead, Total	6.0	6.2	3.3	1.0

Lionville Laboratory, Inc.

INORGANICS LABORATORY CONTROL STANDARDS REPORT 07/09/07

CLIENT: ECC-LI TUNGSTEN

LVL LOT #: 0707L516

WORK ORDER: 60050-010-001-9999-00

SAMPLE	SITE ID	ANALYTE	SAMPLE	AMOUNT	UNITS	%RECOV
=====	=====	=====	=====	=====	=====	=====
LCS1	07L0299-LC1	Arsenic, LCS	863	952	MG/KG	90.6
		Lead, LCS	221	238	MG/KG	92.9

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